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Results of the 1989 Survey for
Harlequin Ducks (Histrionicus histrionicus)
on the
Kootenai National Forest, Montana
and the
Flathead National Forest, Montana

A Preliminary Report to

USDA Forest Service
Kootenai National Forest
506 U.S. Hwy 2 W
Libby, MT 59923

USDA Forest Service
Flathead National Forest
1935 Third Ave. East
Kalispell, MT 59901

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Lisa M. Fairman

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and

Cedron Jones

Montana Natural Heritage Program
1515 East Sixth Avenue
Helena, MT 59620

PLEASE RETURN

FOREST-DISTRICT	STREAM	DATE	MILES SURVEYED	HARLEQUIN SIGHTINGS	SIGHTING LOCATION
Kootenai N.F.					
Cabinet R.D.	Bull River	5-14-89 6-24-89 8-07-89	0.5 6.0 0.4	0 0 0	N/A N/A N/A
	East Fork Blue	6-07-89	1.0	0	N/A
	East Fork Elk	5-14-89 6-26-89 8-07-89	1.0 3.5 2.0	0 0 0	N/A N/A N/A
	Elk	6-26-89 8-07-89	1.0 2.5	0 0	N/A N/A
	Marten	5-14-89 6-06-89 6-29-89 8-11-89	1.0 1.0 3.5 2.25	0 0 1J 2H, 12J	N/A N/A T25N, R33W, Sec21 T25N, R33W, Sec25
	Rock	5-14-89 6-27-89 8-08-89	0.75 4.0 4.0	0 1H 0	N/A T26N, R32W, Sec15 N/A
	South Fork Marten	5-14-89 6-29-89 8-11-89	0.5 1.8 2.5	1D, 1H 1H 0	T25N, R32W, Sec31 R25N, R32W, Sec32 N/A
	Swamp	5-20-89 6-28-89 8-10-89	0.5 4.0 4.6	0 2H, 10J 1J	N/A T25N, R31W, Sec16 T26N, R31W, Sec34 T25N, R31W, Sec9
	Vermilion River	5-20-89 7-07-89 8-14, 15-89	2.7 5.5 11.0	0 1H, 7J 2H, 11J	N/A T24N, R30W, Sec8 T24N, R31W, Sec12 T24N, R30W, Sec7 T24N, R30W, Sec8 T24N, R30W, Sec3
Lolo N.F.					
Plains/ Thompson Falls	Big Rock	6-09-89 7-14-89	0.6 2.4	0 0	N/A N/A
	Fishtrap	5-29-89 7-12, 13-89 8-28, 29-89	12.0 9.0 10.6	0 0 0	N/A N/A N/A

Table 1. CLARK

FOREST-DISTRICT	STREAM	DATE	MILES SURVEYED	HARLEQUIN SIGHTINGS	SIGHTING LOCATION
	Graves	5-20-89 7-06-89 8-16-89	2.5 3.5 2.8	0 0 0	N/A N/A N/A
	Little Thompson	6-09-89 7-19-89 8-28-89	0.4 5.0 3.7	0 0 0	N/A N/A N/A
	Prospect	5-20-89 7-03-89 8-16-89	1.0 4.6 4.6	0 0 0	N/A N/A N/A
	Thompson River	5-29-89 6-09-89 7-10,11-89 7-17,18-89 8-21,22-89	16.0 28.0 18.0 11.0 19.0	0 0 0 0 0	N/A N/A N/A N/A N/A
	West Fk Fishtrap	5-29-89 7-12-89	1.0 1.0	0 0	N/A N/A
	West Fork Thompson River	5-29-89 7-10-89 8-21-89	5.0 4.3 4.3	0 0 0	N/A N/A N/A
Superior R.D.	Big	6-16-89 7-25,26-89	4.0 3.3	0 0	N/A N/A
	Cedar	6-21-89 8-02-89	5.0 5.3	0 0	N/A N/A
	Deer	7-25-89	1.5	0	N/A
	Little Joe	6-20-89 7-31-89	4.0 3.2	0 0	N/A N/A
	Packer	6-15-89 7-26-89	3.5 1.0	0 0	N/A N/A
	St. Regis River	6-13,14-89 7-25,26,27	24.0 22.0	0 0	N/A N/A
	Trout	6-22-89 8-01-89	5.0 6.6	1H, 5J 1H, 4J	T16N, R26W, Sec28 T15N, R26W, Sec8
	Twelvemile	6-19-89 7-27-89	4.5 3.5	0 0	N/A N/A

Table 1 cont.

FOREST-DISTRICT	STREAM	DATE	MILES SURVEYED	HARLEQUIN SIGHTINGS	SIGHTING LOCATION
	Ward	7-31-89	1.2	0	N/A
	West Fork Packer	6-16-89	1.0	0	N/A

Table 1 cont.

FOREST-DISTRICT	STREAM	DATE	MILES SURVEYED	HARLEQUIN SIGHTINGS	SIGHTING LOCATION
Kootenai N.F.					
Fisher River R.D.	East Fisher	6-20-89	0.5	0	N/A
	Fisher River	6-13-89	5.25	0	N/A
	Silver Butte	8-12-89	5.0	0	N/A
	Wolf	6-05-89	3.0	0	N/A
Fortine R.D.	Graves	5-19-89 6-01-89 6-15-89 6-21-89 7-19,20-89	4.0 2.0 1.0 1.0 2.5	1D, 1H (1 pair) 2D, 2H (2 pair) 0 0 1H	T37N, R24W, Sec32, SW T37N, R24W, Sec32, SW N/A N/A T36N, R25W, Sec1, NE
Libby R.D.	Kootenai River	5-14-89 7-25-89 8-20-89	1.0 4.0 6.0	0 0 0	N/A N/A N/A
	Pipe	6-09-89 7-21-89	3.0 3.25	0 0	N/A N/A
	Quartz	5-23-89 7-22-89	1.0 3.0	0 0	N/A N/A
	West Fisher	6-19-89 8-10,11,12	3.0 7.0	0 0	N/A N/A
Rexford R.D.	Big	5-19-89 8-23,24,25	3.5 11.0	0 0	N/A N/A
	Pinkham	5-26-89	1.0	0	N/A
	Sutton	5-26-89	1.0	0	N/A
	Young	5-26-89	1.0	0	N/A
Three Rivers R.D.	Callahan	6-11-89 7-23-89	3.0 2.75	0 0	N/A N/A
	East Fork Yaak	5-26-89 7-31-89 8-17-89	0.5 2.25 2.5	0 0 0	N/A N/A N/A
	Keeler	5-24-89	0.25	0	N/A

Table 2. Kootenai Survey Area Results

FOREST-DISTRICT	STREAM	DATE	MILES SURVEYED	HARLEQUIN SIGHTINGS	SIGHTING LOCATION
	Kootenai Falls	5-14-89 5-28-89 6-04-89 6-11-89 6-24-89	0.25 0.25 0.25 0.25 0.25	4D, 2H (1 pair) 3D 0 1D 0	T31N, R33W, Sec13, NW T31N, R33W, Sec13, NW N/A T31N, R33W, Sec13, NW N/A
	Kootenai River	5-25-89	1.5	0	N/A
	Lake	5-24-89	1.25	0	N/A
	North Fork Yaak	8-17-89	3.0	0	N/A
	Pete	5-25-89	0.5	0	N/A
	Seventeen Mile	5-25-89 8-18-89	0.5 3.5	0 0	N/A N/A
	South Fork Yaak	8-19-89	2.0	0	N/A
	Spar Lake	5-24-89	2.0	0	N/A
	Spread	5-25-89 8-18-89	0.25 3.5	0 0	N/A N/A
	West Fork Yaak	5-26-89 7-29-89	2.0 3.0	0 0	N/A N/A
	Yaak	7-31-89 8-18-89	4.75 4.5	0 0	N/A N/A

Table 2 cont.

FOREST-DISTRICT	STREAM	DATE	MILES SURVEYED	HARLEQUIN SIGHTINGS	SIGHTING LOCATION
Flathead N.F.					
Hungry Horse R.D.	Aeneas	8-31-89	1.6	0	N/A
	Clayton	8-30-89	1.7	0	N/A
	Emery	9-01-89	2.0	0	N/A
	Graves	8-30,31-89	2.6	0	N/A
	Hungry Horse	9-01-89	2.5	0	N/A
	Wounded Buck	8-30-89	2.8	4J	T29N, R18W, Sec18
Tally Lake R.D. *	Good	5-89	---	0	N/A
	Logan	5-89	---	0	N/A
Glacier View R.D.*	Big	6-89	---	0	N/A
	Coal	6-89	---	0	N/A
	Hay	6-89	---	0	N/A
	N.Fk Flathead	6-89	---	0	N/A
	Red Meadow	6-89	---	0	N/A
	Trail	6-89	---	0	N/A
	Whale	6-89	---	0	N/A
Stillwater State Forest *	Fitzsimons	5-89	---	0	N/A
	Stillwater	5-89	---	0	N/A
	Swift	5-89	---	0	N/A

* exact date and miles not available

Table 3. Flathead Survey Area results

FOREST-DISTRICT	LOCATION	DATE	SIGHTING	OBSERVER
Kootenai N.F.				
Cabinet R.D.	East Fork Bull- near Lost Cab Gulch	1988-May	1 D and 1 H	Andy Juden-Heron, MT
	Bull River-near Star Gulch	1989-May	1 D	Jim Swanson-Thompson Falls, MT
	Galena Gulch	9-3-1989	3 to 4 J or H	T.P. Michael
Fortine R.D.	Graves Creek	1980's	occurrence-specifics unknown	Steve Fox, Tim Manley- USFS, MTFWP
Libby R.D.	Quartz Creek-1/2 to 1 mile upstream from mouth	1981 or 1982	1 D and 1 H	Al Bratkovich-USFS
	Quartz Creek-1/2 mile upstream from mouth	1987 or 1988	3 chicks caught unharmed in upstream fishtrap. Released unharmed.	Barry Hansen-MTFWP
	Yaak River	1980's-Christmas Bird Count, year unknown	3 H	Barry Hansen-MTFWP Jon Jersek-USFS
Rexford R.D.	Big Creek-at mouth	1988-spring	1 adult	Marge Swanson-Libby, MT
Three Rivers R.D.	Callahan	1986-spring	1 D and 1 H (1 pair)	Barry Hansen-MTFWP
	East Fork Yaak	1980's-date unknown	occurrence-specifics unknown (may be wood ducks)	Clint and Gloria Mills-Yaak, MT
	Kootenai Falls	1980's-yearly 1980's-early	numerous sightings of D, H, and some J Nest site located within log/debris jam above Falls.	numerous biologists and bird watchers Carl Wolf-USFS
	North Fork Yaak	1980's-date unknown	occurrence-specifics unknown	Bill Pomeroy-USFS
	Seventeen Mile-1/4 mile upstream from mouth near bridge	1988	occurrence-specifics unknown	Bill Pomeroy-USFS
	Spar Lake- at Whoopee Creek confluence	1988-spring	1 D and 1 H (1 pair)	Bob Byars-USFS
	Yaak River-at mile post #13	1983-spring	occurrence-specifics unknown	Randy Matchet-MTFWP

FOREST-DISTRICT	STREAM	DATE	MILES SURVEYED	HARLEQUIN SIGHTINGS	SIGHTING LOCATION
Kootenai N.F.					
Cabinet R.D.	Bull River	5-14-89	0.5	0	N/A
		6-24-89	6.0	0	N/A
		8-07-89	0.4	0	N/A
	East Fork Blue	6-07-89	1.0	0	N/A
	East Fork Elk	5-14-89	1.0	0	N/A
		6-26-89	3.5	0	N/A
		8-07-89	2.0	0	N/A
	Elk	6-26-89	1.0	0	N/A
		8-07-89	2.5	0	N/A
	Marten	5-14-89	1.0	0	N/A
		6-06-89	1.0	0	N/A
		6-29-89	3.5	1J	T25N, R33W, Sec21
		8-11-89	2.25	2H, 12J	T25N, R33W, Sec25
	Rock	5-14-89	0.75	0	N/A
		6-27-89	4.0	1H	T26N, R32W, Sec15
		8-08-89	4.0	0	N/A
	South Fork Marten	5-14-89	0.5	1D, 1H	T25N, R32W, Sec31
		6-29-89	1.8	1H	R25N, R32W, Sec32
		8-11-89	2.5	0	N/A
	Swamp	5-20-89	0.5	0	N/A
		6-28-89	4.0	2H, 10J	T25N, R31W, Sec16
		8-10-89	4.6	1J	T26N, R31W, Sec34
	Vermilion River	5-20-89	2.7	0	T25N, R31W, Sec9
		7-07-89	5.5	1H, 7J	N/A
		8-14, 15-89	11.0	2H, 11J	T24N, R30W, Sec8
					T24N, R31W, Sec12
					T24N, R30W, Sec7
					T24N, R30W, Sec8
					T24N, R30W, Sec3
Lolo N.F.					
Plains/ Thompson Falls	Big Rock	6-09-89	0.6	0	N/A
		7-14-89	2.4	0	N/A
	Fishtrap	5-29-89	12.0	0	N/A
		7-12, 13-89	9.0	0	N/A
		8-28, 29-89	10.6	0	N/A

FOREST-DISTRICT	STREAM	DATE	MILES SURVEYED	HARLEQUIN SIGHTINGS	SIGHTING LOCATION
	Graves	5-20-89 7-06-89 8-16-89	2.5 3.5 2.8	0 0 0	N/A N/A N/A
	Little Thompson	6-09-89 7-19-89 8-28-89	0.4 5.0 3.7	0 0 0	N/A N/A N/A
	Prospect	5-20-89 7-03-89 8-16-89	1.0 4.6 4.6	0 0 0	N/A N/A N/A
	Thompson River	5-29-89 6-09-89 7-10, 11-89 7-17, 18-89 8-21, 22-89	16.0 28.0 18.0 11.0 19.0	0 0 0 0 0	N/A N/A N/A N/A N/A
	West Fk Fishtrap	5-29-89 7-12-89	1.0 1.0	0 0	N/A N/A
	West Fork Thompson River	5-29-89 7-10-89 8-21-89	5.0 4.3 4.3	0 0 0	N/A N/A N/A
Superior R.D.	Big	6-16-89 7-25, 26-89	4.0 3.3	0 0	N/A N/A
	Cedar	6-21-89 8-02-89	5.0 5.3	0 0	N/A N/A
	Deer	7-25-89	1.5	0	N/A
	Little Joe	6-20-89 7-31-89	4.0 3.2	0 0	N/A N/A
	Packer	6-15-89 7-26-89	3.5 1.0	0 0	N/A N/A
	St. Regis River	6-13, 14-89 7-25, 26, 27	24.0 22.0	0 0	N/A N/A
	Trout	6-22-89 8-01-89	5.0 6.6	1H, 5J 1H, 4J	T16N, R26W, Sec28 T15N, R26W, Sec8
	Twelvemile	6-19-89 7-27-89	4.5 3.5	0 0	N/A N/A

FOREST-DISTRICT	STREAM	DATE	MILES SURVEYED	HARLEQUIN SIGHTINGS	SIGHTING LOCATION
	Ward	7-31-89	1.2	0	N/A
	West Fork Packer	6-16-89	1.0	0	N/A

FOREST-DISTRICT	STREAM	DATE	MILES SURVEYED	HARLEQUIN SIGHTINGS	SIGHTING LOCATION
Kootenai N.F.					
Fisher River R.D.	East Fisher	6-20-89	0.5	0	N/A
	Fisher River	6-13-89	5.25	0	N/A
	Silver Butte	8-12-89	5.0	0	N/A
	Wolf	6-05-89	3.0	0	N/A
Fortine R.D.	Graves	5-19-89	4.0	10, 1H (1 pair)	T37N, R24W, Sec32, SW
		6-01-89	2.0	20, 2H (2 pair)	T37N, R24W, Sec32, SW
		6-15-89	1.0	0	N/A
		6-21-89	1.0	0	N/A
		7-19, 20-89	2.5	1H	T36N, R25W, Sec1, NE
Libby R.D.	Kootenai River	5-14-89	1.0	0	N/A
		7-25-89	4.0	0	N/A
		8-20-89	6.0	0	N/A
	Pipe	6-09-89	3.0	0	N/A
		7-21-89	3.25	0	N/A
	Quartz	5-23-89	1.0	0	N/A
		7-22-89	3.0	0	N/A
	West Fisher	6-19-89	3.0	0	N/A
		8-10, 11, 12	7.0	0	N/A
Rexford R.D.	Big	5-19-89	3.5	0	N/A
		8-23, 24, 25	11.0	0	N/A
	Pinkham	5-26-89	1.0	0	N/A
	Sutton	5-26-89	1.0	0	N/A
	Young	5-26-89	1.0	0	N/A
Three Rivers R.D.	Callahan	6-11-89	3.0	0	N/A
		7-23-89	2.75	0	N/A
	East Fork Yaak	5-26-89	0.5	0	N/A
		7-31-89	2.25	0	N/A
		8-17-89	2.5	0	N/A
	Keeler	5-24-89	0.25	0	N/A

FOREST-DISTRICT	STREAM	DATE	MILES SURVEYED	HARLEQUIN SIGHTINGS	SIGHTING LOCATION
	Kootenai Falls	5-14-89 5-28-89 6-04-89 6-11-89 6-24-89	0.25 0.25 0.25 0.25 0.25	40, 2H (1 pair) 30 0 10 0	T31N, R33W, Sec13, NW T31N, R33W, Sec13, NW N/A T31N, R33W, Sec13, NW N/A
	Kootenai River	5-25-89	1.5	0	N/A
	Lake	5-24-89	1.25	0	N/A
	North Fork Yaak	8-17-89	3.0	0	N/A
	Pete	5-25-89	0.5	0	N/A
	Seventeen Mile	5-25-89 8-18-89	0.5 3.5	0 0	N/A N/A
	South Fork Yaak	8-19-89	2.0	0	N/A
	Spar Lake	5-24-89	2.0	0	N/A
	Spread	5-25-89 8-18-89	0.25 3.5	0 0	N/A N/A
	West Fork Yaak	5-26-89 7-29-89	2.0 3.0	0 0	N/A N/A
	Yaak	7-31-89 8-18-89	4.75 4.5	0 0	N/A N/A

FOREST-DISTRICT	STREAM	DATE	MILES SURVEYED	HARLEQUIN SIGHTINGS	SIGHTING LOCATION
Flathead N.F.					
Hungry Horse R.D.	Aeneas	8-31-89	1.6	0	N/A
	Clayton	8-30-89	1.7	0	N/A
	Emery	9-01-89	2.0	0	N/A
	Graves	8-30,31-89	2.6	0	N/A
	Hungry Horse	9-01-89	2.5	0	N/A
	Wounded Buck	8-30-89	2.8	4J	T29N, R18W, Sec 18
Tally Lake R.D. *	Good	5-89	---	0	N/A
	Logan	5-89	---	0	N/A
Glacier View R.D.*	Big	6-89	---	0	N/A
	Coal	6-89	---	0	N/A
	Hay	6-89	---	0	N/A
	N.Fk Flathead	6-89	---	0	N/A
	Red Meadow	6-89	---	0	N/A
	Trail	6-89	---	0	N/A
	Whale	6-89	---	0	N/A
Stillwater State Forest *	Fitzsimons	5-89	---	0	N/A
	Stillwater	5-89	---	0	N/A
	Swift	5-89	---	0	N/A

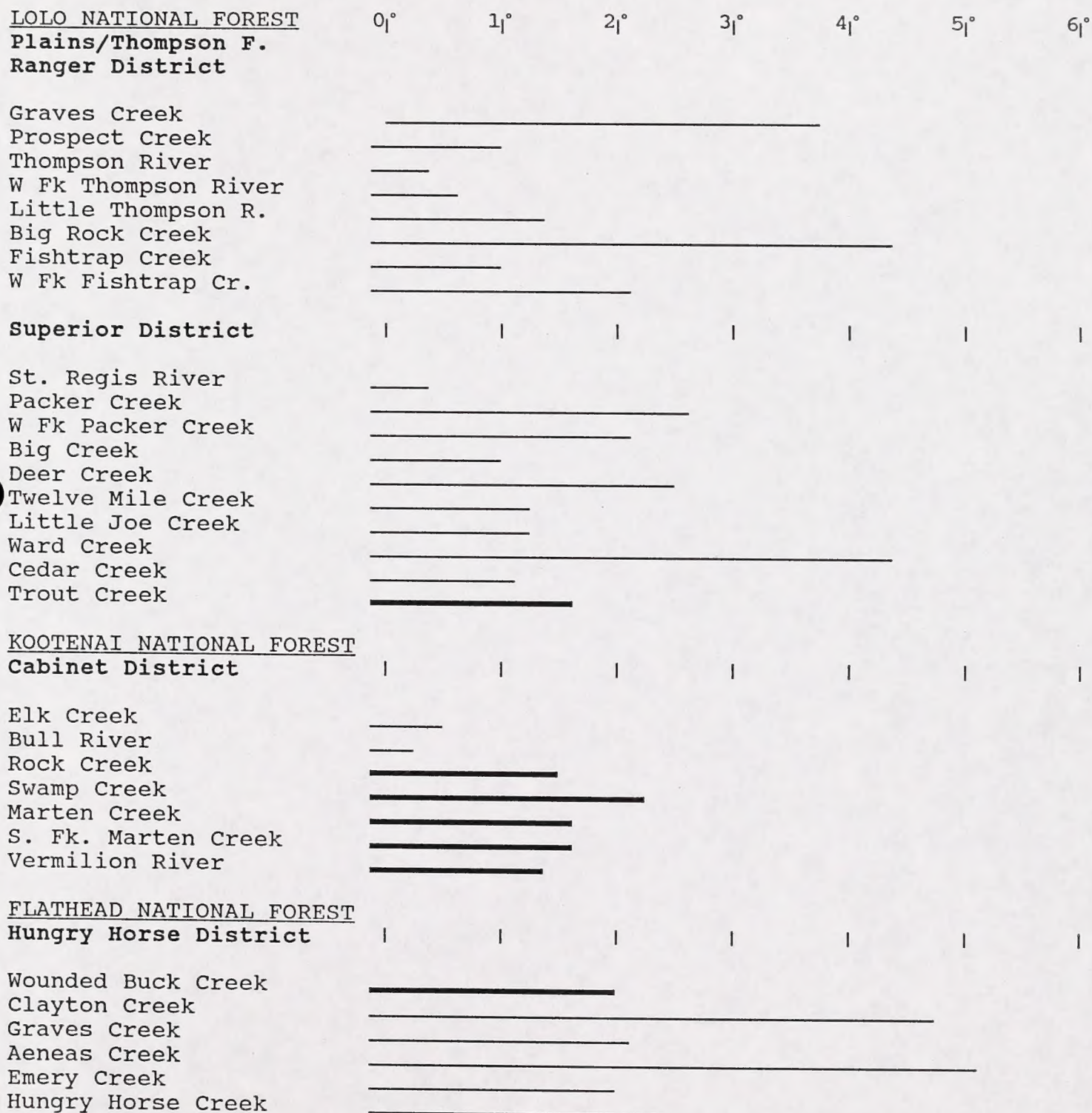
* exact date and miles not available

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	Bull River-near Star Gulch	1989-May	1 D	Jim Swanson-Thompson Falls, MT
	Galena Gulch	9-3-1989	3 to 4 J or H	T.P. Michael
Fortine R.D.	Graves Creek	1980's	occurrence-specifics unknown	Steve Fox, Tim Manley- USFS, MTFWP
Libby R.D.	Quartz Creek-1/2 to 1 mile upstream from mouth	1981 or 1982	1 D and 1 H	Al Bratkovich-USFS
	Quartz Creek-1/2 mile upstream from mouth	1987 or 1988	3 chicks caught unharmed in upstream fishtrap. Released unharmed.	Barry Hansen-MTFWP
	Yaak River	1980's-Christmas Bird Count, year unknown	3 H	Barry Hansen-MTFWP Jon Jeresek-USFS
Rexford R.D.	Big Creek-at mouth	1988-spring	1 adult	Marge Swanson-Libby, MT
Three Rivers R.D.	Callahan	1986-spring	1 D and 1 H (1 pair)	Barry Hansen-MTFWP
	East Fork Yaak	1980's-date unknown	occurrence-specifics unknown (may be wood ducks)	Clint and Gloria Mills-Yaak, MT
	Kootenai Falls	1980's-yearly 1980's-early	numerous sightings of D, H, and some J Nest site located within log/debris jam above Falls.	numerous biologists and bird watchers Carl Wolf-USFS
	North Fork Yaak	1980's-date unknown	occurrence-specifics unknown	Bill Pomeroy-USFS
	Seventeen Mile-1/4 mile upstream from mouth near bridge	1988	occurrence-specifics unknown	Bill Pomeroy-USFS
	Spar Lake- at Whoopee Creek confluence	1988-spring	1 D and 1 H (1 pair)	Bob Byars-USFS
	Yaak River-at mile post #13	1983-spring	occurrence-specifics unknown	Randy Matchet-MTFWP

FIGURE 3

STREAM GRADIENT ESTIMATES
(degrees)

(Calculated by gain in elevation, from contour maps, per mile surveyed)



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